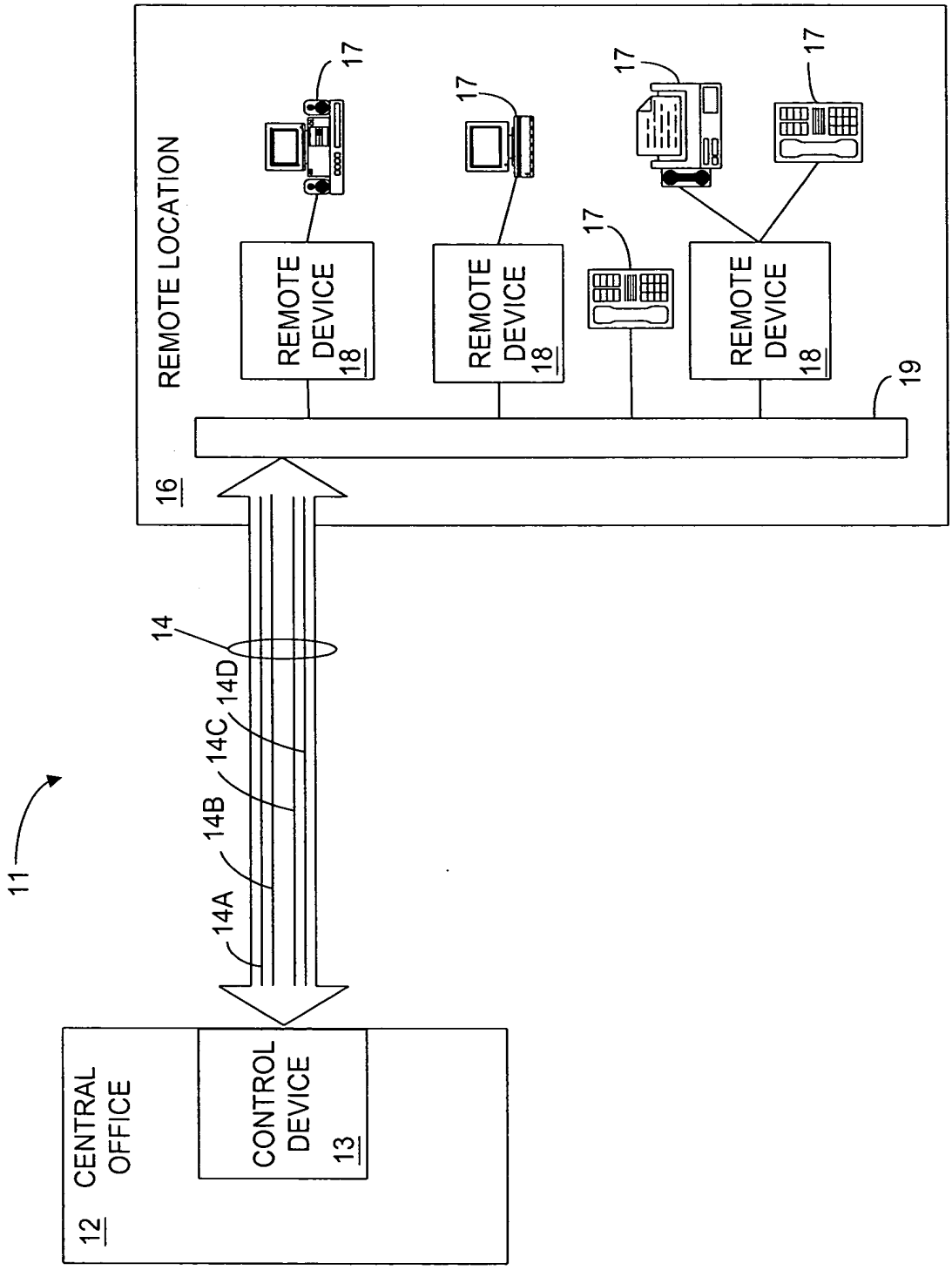

11
12 CENTRAL OFFICE
CONTROL DEVICE 13
14
14A
14B
14C
14D
16
REMOTE LOCATION
REMOTE DEVICE 18
REMOTE DEVICE 18
REMOTE DEVICE 18
17
17
17
17
17
19

FIG. 1

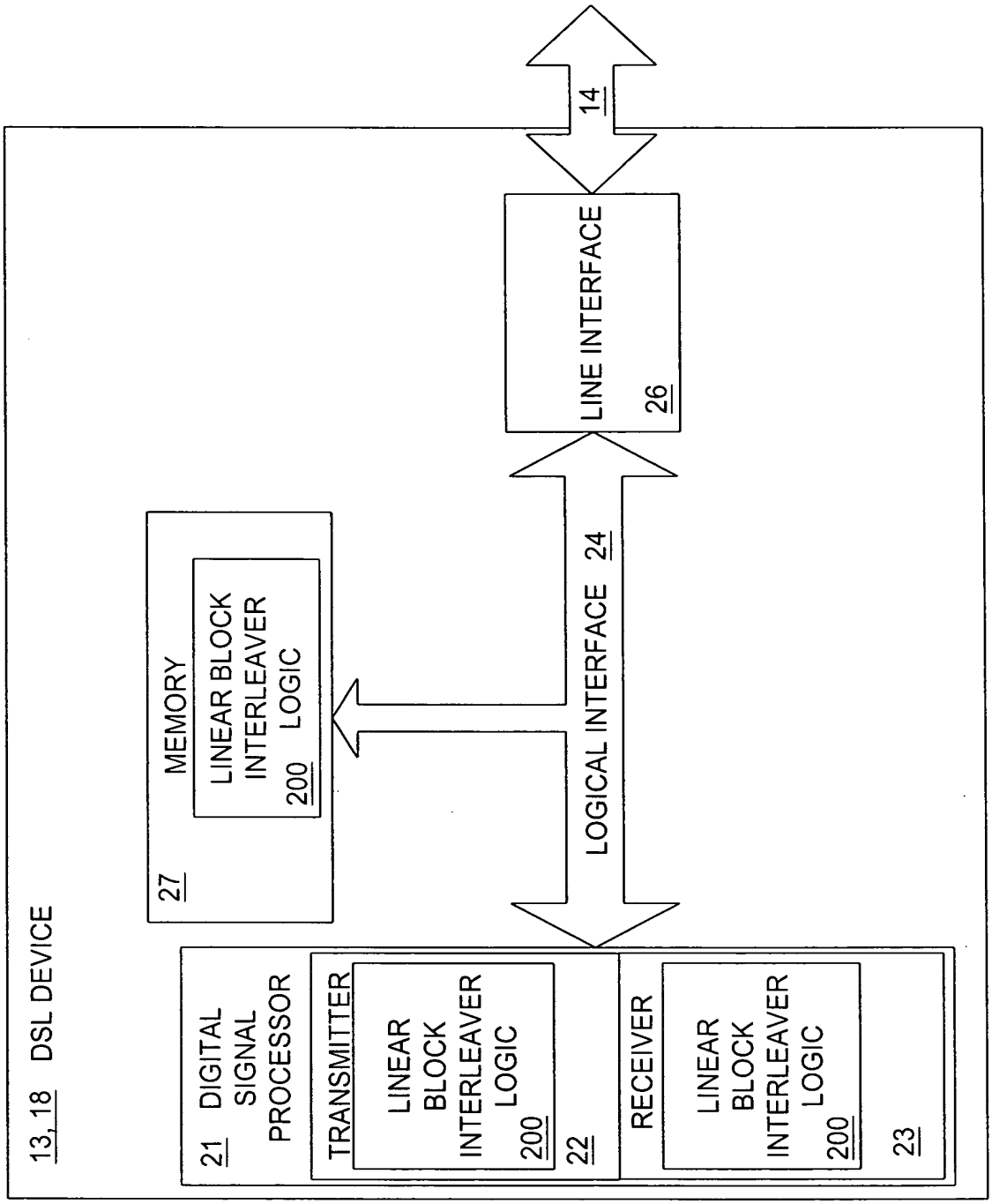

13, 18 DSL DEVICE
21 DIGITAL SIGNAL PROCESSOR
TRANSMITTER
LINEAR BLOCK INTERLEAVER LOGIC
200
22
RECEIVER
LINEAR BLOCK INTERLEAVER LOGIC
200
23
27 MEMORY
LINEAR BLOCK INTERLEAVER LOGIC
200
LOGICAL INTERFACE 24
LINE INTERFACE
26
14

FIG. 2

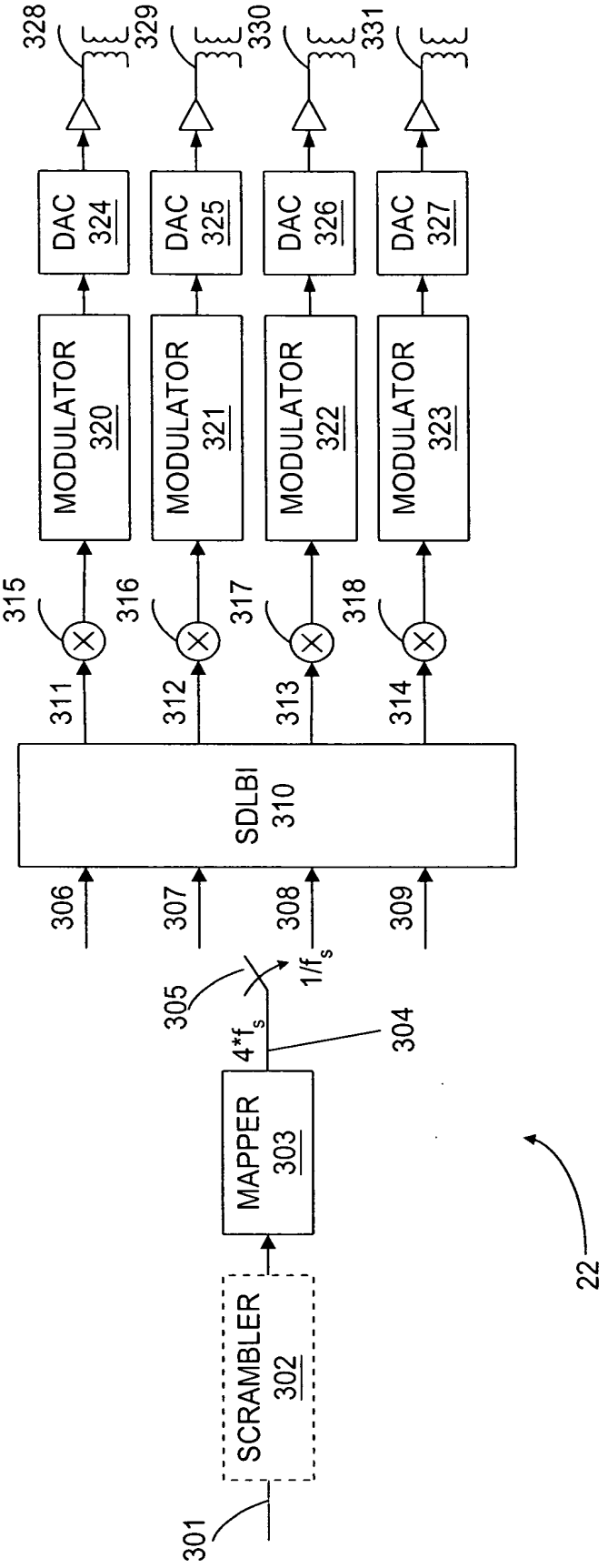

328
329
330
331
DAC 324
DAC 325
DAC 326
DAC 327
MODULATOR 320
MODULATOR 321
MODULATOR 322
MODULATOR 323
315
316
317
318
311
312
313
314
SDLBI 310
306
307
308
309
305
$1/f_s$
$4*f_s$
304
MAPPER 303
SCRAMBLER 302
301
22

FIG. 3

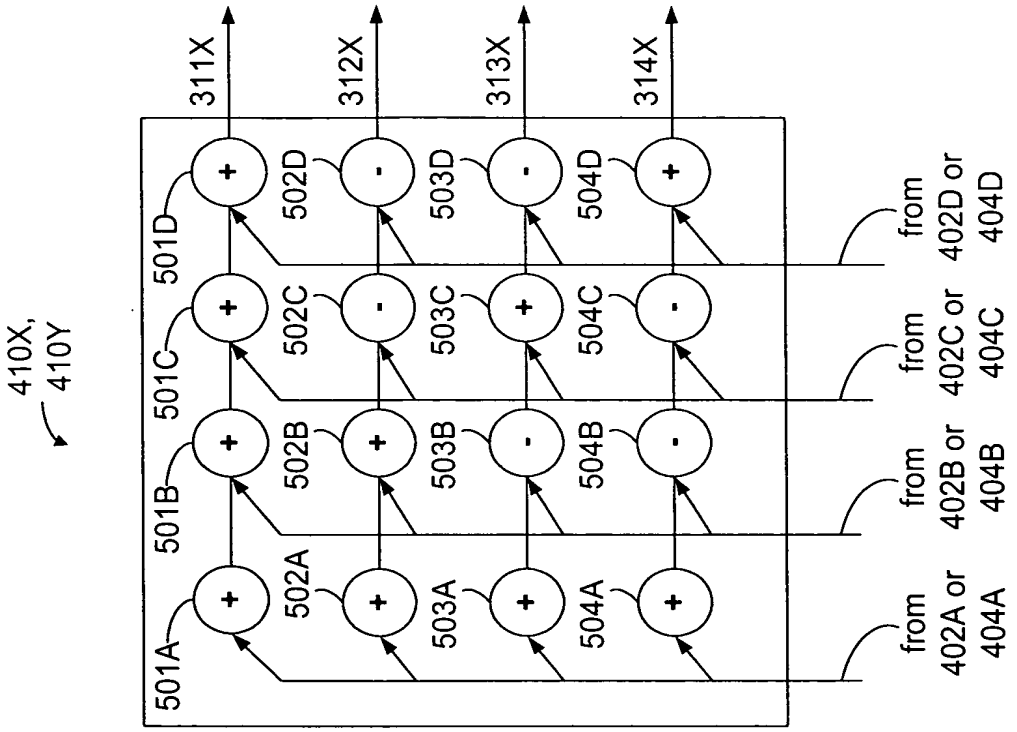

410X,
410Y
501A
501B
501C
501D
502A
502B
502C
502D
503A
503B
503C
503D
504A
504B
504C
504D
311X
312X
313X
314X
from 402A or 404A
from 402B or 404B
from 402C or 404C
from 402D or 404D

FIG. 5

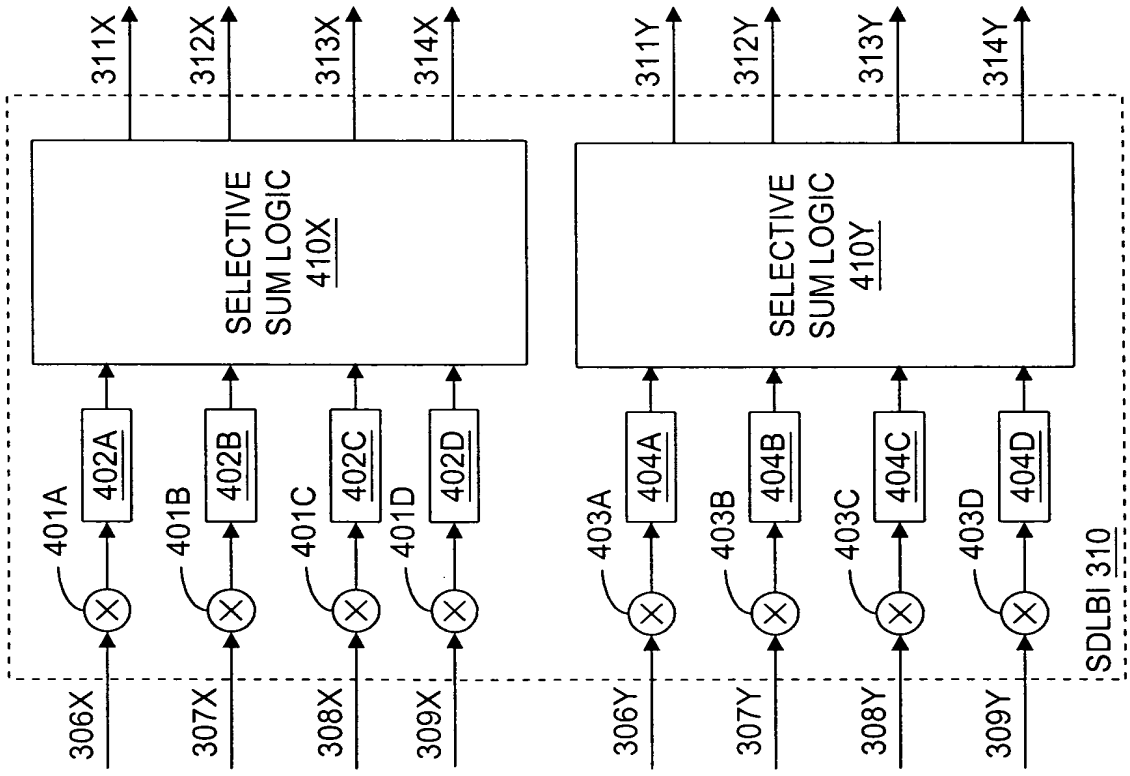

X COMPONENTS
Y COMPONENTS
306X
307X
308X
309X
306Y
307Y
308Y
309Y
401A
401B
401C
401D
403A
403B
403C
403D
402A
402B
402C
402D
404A
404B
404C
404D
SELECTIVE SUM LOGIC 410X
SELECTIVE SUM LOGIC 410Y
311X
312X
313X
314X
311Y
312Y
313Y
314Y
SDLBI 310

FIG. 4

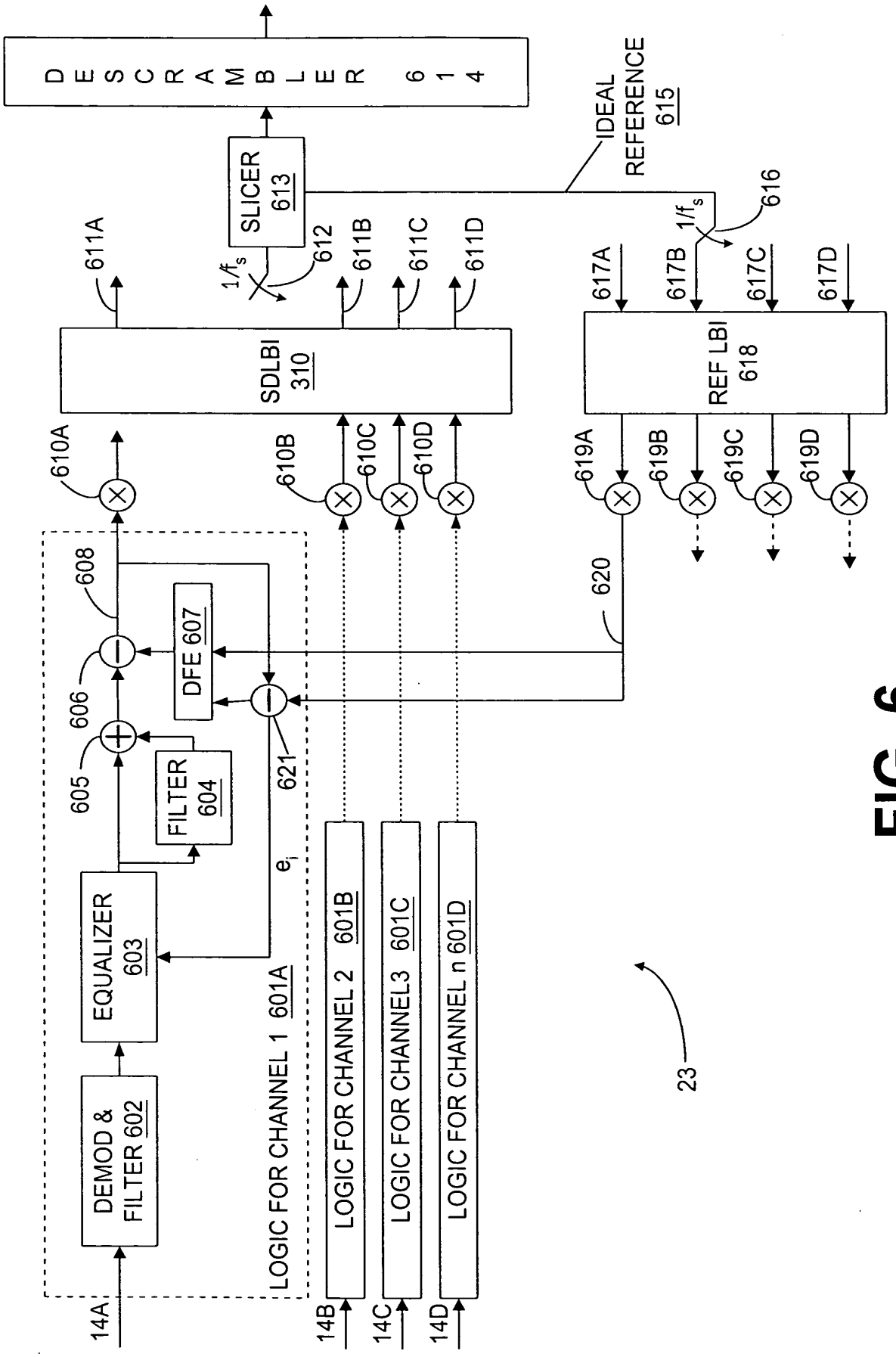

DESCRAMBLER 614
SLICER 613
IDEAL REFERENCE 615
1/fs
612
611A
611B
611C
611D
616
617A
617B
617C
617D
SDLBI 310
REF LBI 618
610A
610B
610C
610D
619A
619B
619C
619D
620
608
606
605
DFE 607
FILTER 604
621
ei
EQUALIZER 603
DEMOD & FILTER 602
LOGIC FOR CHANNEL 1 601A
LOGIC FOR CHANNEL 2 601B
LOGIC FOR CHANNEL3 601C
LOGIC FOR CHANNEL n 601D
14A
14B
14C
14D
23

FIG. 6

FIG. 7

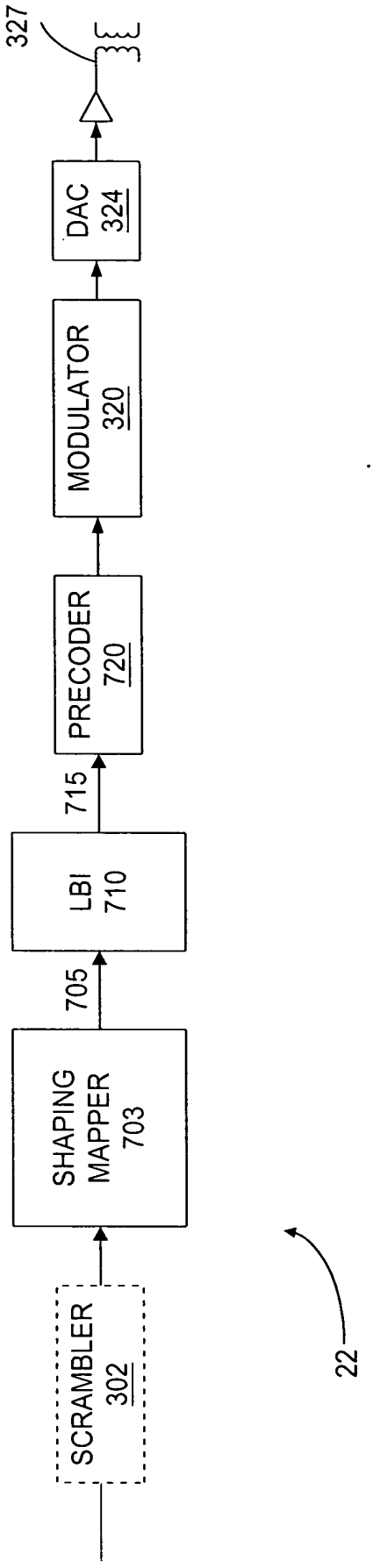
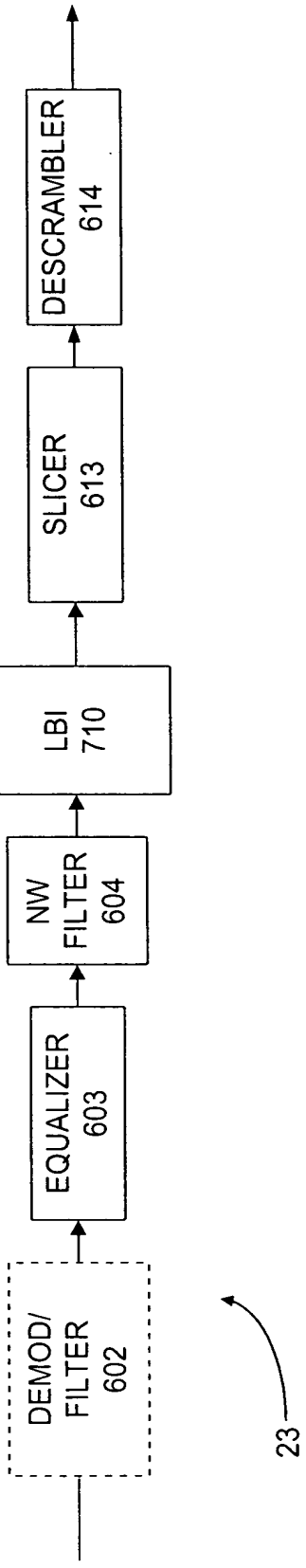

SCRAMBLER
302
SHAPING
MAPPER
703
705
LBI
710
715
PRECODER
720
MODULATOR
320
DAC
324
327
22

FIG. 8


DEMOD/
FILTER
602
EQUALIZER
603
NW
FILTER
604
LBI
710
SLICER
613
DESCRAMBLER
614
23

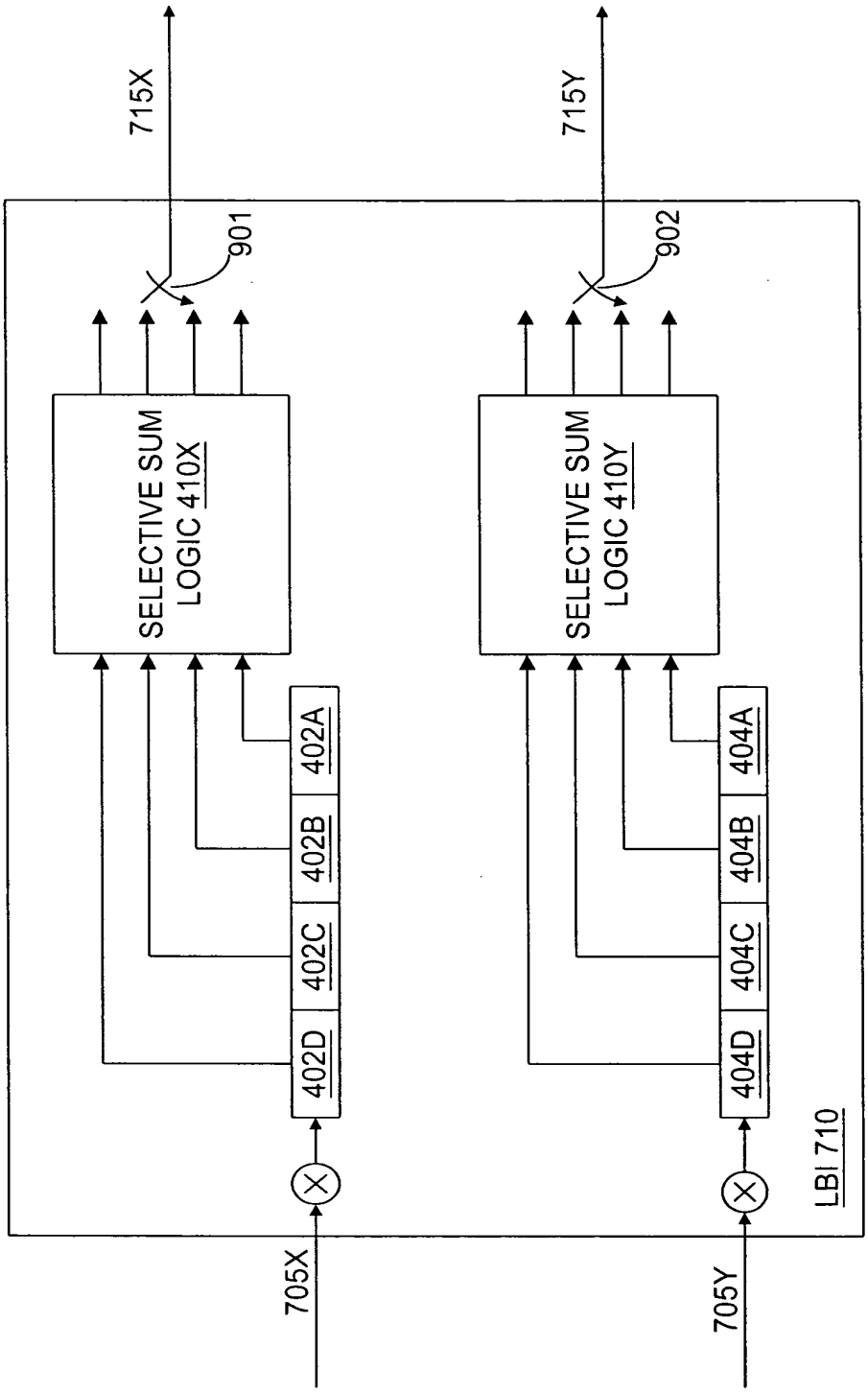

715X
715Y
901
902
SELECTIVE SUM LOGIC 410X
SELECTIVE SUM LOGIC 410Y
402A
402B
402C
402D
404A
404B
404C
404D
LBI 710
705X
705Y

FIG. 9